

## WHAT IS CLAIMED IS:

1. A method for changing over to a different frequency at a cellular phone system, in which a mobile communication terminal, a first base station and a second base station, and a base station controlling apparatus are provided, wherein:

said first base station communicates with said mobile communication terminal by setting a channel using a first frequency, and

said second base station communicates with said mobile communication terminal by setting a channel using a second frequency, and

said mobile communication terminal measures first reception quality in said first frequency and second reception quality in said second frequency during the communication with said first base station by setting a channel, and

said mobile communication terminal is controlled to communicate with said second base station by changing over the channel from said first base station to said second base station, when the difference between said second reception quality and said first reception quality exceeds a first threshold value, wherein:

said method for changing over to a different frequency, comprising the step of:

controlling to change said first threshold value corresponding to the moving velocity of said mobile communication terminal.

2. A method for changing over to a different frequency at a cellular phone system, in which a mobile communication terminal, a first base station and a second base station, and a base station controlling apparatus are provided, wherein:

said first base station communicates with said mobile

communication terminal by setting a channel using a first frequency,  
and

said second base station communicates with said mobile  
communication terminal by setting a channel using a second frequency,  
5 and

said mobile communication terminal measures first reception  
quality in said first frequency during the communication with said first  
base station by setting a channel, and also

said mobile communication terminal measures second  
10 reception quality in said second frequency corresponding to said  
measured first reception quality during the communication with said first  
base station by setting a channel, and

said mobile communication terminal is controlled to  
communicate with said second base station by changing over the channel  
15 from said first base station to said second base station corresponding to  
said first and second reception quality, wherein:

said method for changing over to a different frequency,  
comprising the step of:

controlling to change the condition measuring said second  
20 reception quality corresponding to the moving velocity of said mobile  
communication terminal.

3. A method for changing over to a different frequency in  
accordance with claim 2, further comprising the steps of:

25 changing a second threshold value and a third threshold value  
corresponding to said moving velocity of said mobile communication  
terminal, when said condition measuring said second reception quality is  
controlled to change; and

measuring said second reception quality when said first

reception quality is less than said changed second threshold value.

4. A method for changing over to a different frequency in accordance with claim 1, or 2, wherein:

5       said first base station transmits a first broadcast channel and  
said second base station transmits a second broadcast channel, and

      said first reception quality is reception quality in said first  
broadcast channel and said second reception quality is reception quality  
in said second broadcast channel.

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5. A method for changing over to a different frequency in accordance with claim 1, or 2, further comprising the steps of:

      making a data vacant time in which data are not transmitted  
by compressing transmitting data in the time by said first base station;

15   and

      measuring said second reception quality in said data vacant  
time by said mobile communication terminal.

20   6. A method for changing over to a different frequency in  
accordance with claim 1, wherein:

      said controlling to change said first threshold value  
corresponding to the moving velocity of said mobile communication  
terminal is executed at said base station controlling apparatus or said  
mobile communication terminal.

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7. A method for changing over to a different frequency in accordance with claim 2, wherein:

      said controlling to change said condition measuring said second  
reception quality corresponding to the moving velocity of said mobile

communication terminal is executed at said base station controlling apparatus or said mobile communication terminal.

8. A cellular phone system, in which a mobile communication  
5 terminal, a first base station and a second base station, and a base station controlling apparatus are provided, wherein:

said first base station communicates with said mobile communication terminal by setting a channel using a first frequency, and

said second base station communicates with said mobile  
10 communication terminal by setting a channel using a second frequency, and

said mobile communication terminal measures first reception quality in said first frequency and second reception quality in said second frequency during the communication with said first base station by  
15 setting a channel, and

said mobile communication terminal is controlled to communicate with said second base station by changing over the channel from said first base station to said second base station, when the difference between said second reception quality and said first reception  
20 quality exceeds a first threshold value, wherein:

said cellular phone system, comprising:

a first controlling means for controlling to change said first threshold value corresponding to the moving velocity of said mobile communication terminal.

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9. A cellular phone system, in which a mobile communication terminal, a first base station and a second base station, and a base station controlling apparatus are provided, wherein:

said first base station communicates with said mobile

communication terminal by setting a channel using a first frequency,  
and

said second base station communicates with said mobile  
communication terminal by setting a channel using a second frequency,  
5 and

said mobile communication terminal measures first reception  
quality in said first frequency during the communication with said first  
base station by setting a channel, and also

said mobile communication terminal measures second  
10 reception quality in said second frequency corresponding to said  
measured first reception quality during the communication with said first  
base station by setting a channel, and

said mobile communication terminal is controlled to  
communicate with said second base station by changing over the channel  
15 from said first base station to said second base station corresponding to  
said first and second reception quality, wherein:

said cellular phone system, comprising:

a second controlling means for controlling to change the  
condition measuring said second reception quality corresponding to the  
20 moving velocity of said mobile communication terminal.

10. A cellular phone system in accordance with claim 9,  
wherein:

said second controlling means, comprising:

25 a changing means for changing a second threshold value and a  
third threshold value corresponding to said moving velocity of said mobile  
communication terminal; and

a measuring means for measuring said second reception quality  
when said first reception quality is less than said changed second

threshold value.

11. A cellular phone system in accordance with claim 8, or 9, wherein:

5       said first base station transmits a first broadcast channel and said second base station transmits a second broadcast channel, and

      said first reception quality is reception quality in said first broadcast channel and said second reception quality is reception quality in said second broadcast channel.

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12. A cellular phone system in accordance with claim 8, or 9, wherein:

      said first base station, comprising:

15       a data vacant time making means for making a data vacant time in which data are not transmitted by compressing transmitting data in the time, and

      said mobile communication terminal, comprising:

      a measuring means for measuring said second reception quality in said data vacant time.

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13. A cellular phone system in accordance with claim 8, wherein:

      said first controlling means is provided in said base station controlling apparatus or said mobile communication terminal.

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14. A cellular phone system in accordance with claim 9, wherein:

      said second controlling means is provided in said base station controlling apparatus or said mobile communication terminal.

15. A base station controlling apparatus in a cellular phone system, in which a mobile communication terminal, a first base station and a second base station, and said base station controlling apparatus are  
5 provided, wherein:

said first base station communicates with said mobile communication terminal by setting a channel using a first frequency, and

said second base station communicates with said mobile communication terminal by setting a channel using a second frequency,

10 and

said mobile communication terminal measures first reception quality in said first frequency and second reception quality in said second frequency during the communication with said first base station by setting a channel, and

15 said mobile communication terminal is controlled to communicate with said second base station by changing over the channel from said first base station to said second base station, when the difference between said second reception quality and said first reception quality exceeds a first threshold value, wherein:

20 said base station controlling apparatus, comprising:

a first controlling means for controlling to change said first threshold value corresponding to the moving velocity of said mobile communication terminal.

25 16. A base station controlling apparatus in a cellular phone system, in which a mobile communication terminal, a first base station and a second base station, and said base station controlling apparatus are provided, wherein:

said first base station communicates with said mobile

communication terminal by setting a channel using a first frequency,  
and

said second base station communicates with said mobile  
communication terminal by setting a channel using a second frequency,  
5 and

said mobile communication terminal measures first reception  
quality in said first frequency during the communication with said first  
base station by setting a channel, and also

said mobile communication terminal measures second  
10 reception quality in said second frequency corresponding to said  
measured first reception quality during the communication with said first  
base station by setting a channel, and

said mobile communication terminal is controlled to  
communicate with said second base station by changing over the channel  
15 from said first base station to said second base station corresponding to  
said first and second reception quality, wherein:

said base station controlling apparatus, comprising:

a second controlling means for controlling to change the  
condition measuring said second reception quality corresponding to the  
20 moving velocity of said mobile communication terminal.

17. A base station controlling apparatus in accordance with  
claim 16, wherein:

said second controlling means, comprising:

25 a changing means for changing a second threshold value and a  
third threshold value corresponding to said moving velocity of said mobile  
communication terminal; and

a measuring means for measuring said second reception quality  
when said first reception quality is less than said changed second



threshold value.

18. A mobile communication terminal in a cellular phone system, in which said mobile communication terminal, a first base station  
5 and a second base station, and a base station controlling apparatus are provided, wherein:

said first base station communicates with said mobile communication terminal by setting a channel using a first frequency, and

said second base station communicates with said mobile  
10 communication terminal by setting a channel using a second frequency, and

said mobile communication terminal measures first reception quality in said first frequency and second reception quality in said second frequency during the communication with said first base station by  
15 setting a channel, and

said mobile communication terminal is controlled to communicate with said second base station by changing over the channel from said first base station to said second base station, when the difference between said second reception quality and said first reception  
20 quality exceeds a first threshold value, wherein:

said mobile communication terminal, comprising:

a first controlling means for controlling to change said first threshold value corresponding to the moving velocity of said mobile communication terminal.

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19. A mobile communication terminal in a cellular phone system, in which said mobile communication terminal, a first base station and a second base station, and a base station controlling apparatus are provided, wherein:

said first base station communicates with said mobile communication terminal by setting a channel using a first frequency, and

said second base station communicates with said mobile communication terminal by setting a channel using a second frequency,

5 and

said mobile communication terminal measures first reception quality in said first frequency during the communication with said first base station by setting a channel, and also

said mobile communication terminal measures second  
10 reception quality in said second frequency corresponding to said measured first reception quality during the communication with said first base station by setting a channel, and

said mobile communication terminal is controlled to communicate with said second base station by changing over the channel  
15 from said first base station to said second base station corresponding to said first and second reception quality, wherein:

said mobile communication terminal, comprising:

a second controlling means for controlling to change the condition measuring said second reception quality corresponding to the  
20 moving velocity of said mobile communication terminal.

20. A mobile communication terminal in accordance with claim 19, wherein:

said second controlling means, comprising:

25 a changing means for changing a second threshold value and a third threshold value corresponding to said moving velocity of said mobile communication terminal; and

a measuring means for measuring said second reception quality when said first reception quality is less than said changed second

threshold value.